

What Is Claimed Is:

1. A semiconductor device comprising:
a semiconductor substrate;
an uppermost metal interconnect formed on the semiconductor substrate;
an oxide layer formed on the substrate and the uppermost metal interconnect;
an aluminum layer formed on the oxide layer; and
a stress-relief layer formed on the aluminum layer.
2. A semiconductor device as defined in claim 1, wherein the stress-relief layer comprises an aluminum oxide layer.
3. A semiconductor device as defined in claim 1, wherein the aluminum layer is formed in a thickness of 100 to 300 Å.
4. A semiconductor device as defined in claim 1, wherein the oxide layer is formed of one of an undoped silica glass and a fluorinated silica glass.
5. A semiconductor device as defined in claim 1, wherein the semiconductor device is at least one of a multi-interconnect adapted device and a power device.

6. A method to fabricate a semiconductor device, the method comprising:

- forming an uppermost metal interconnect on a semiconductor substrate;
- forming an oxide layer on the substrate and the uppermost metal interconnect;
- forming an aluminum layer on the oxide layer; and
- forming a stress-relief layer on the aluminum layer to reduce stress on the metal interconnect.

7. A method as defined in claim 6, wherein forming the stress-relief layer comprises:

- performing a plasma treatment on a surface of the aluminum layer to form an aluminum oxide layer; and
- annealing the aluminum oxide layer.

8. A method as defined in claim 7, wherein the plasma treatment uses at least one of N₂O gas and O₂ gas.

9. A method as defined in claim 7, wherein the annealing is performed at a temperature of 200 to 400°C.

10. A method as defined in claim 7, wherein the aluminum oxide layer is annealed in an atmosphere of inert gas.

11. A method as defined in claim 10, wherein the inert gas is at least one of Ar and He.

12. A method as defined in claim 8, wherein the aluminum oxide layer is annealed in an atmosphere of inert gas.

13. A method as defined in claim 7, wherein the aluminum oxide layer is annealed in an atmosphere of gas including at least one of N_2O , O_2 , N_2 , and H_2 .

14. A method as defined in claim 8, wherein the aluminum oxide layer is annealed in an atmosphere of gas including at least one of N_2O , O_2 , N_2 , and H_2 .

15. A method as defined in claim 6, wherein the semiconductor device is at least one of a multi-interconnect adapted device and a power device.